Billings PCE Site Proposal to add to the National Priorities List of Superfund Sites

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The Billings PCE Site

The Billings PCE Site consists of a contaminant plume in shallow groundwater, extending from Central Avenue approximately three miles, east-northeast, through several mixed use neighborhoods into downtown Billings, MT. The plume contains chlorinated solvents, primarily tetrachloroethylene (PCE), with isolated pockets of petroleum hydrocarbons from leaking underground storage tank facilities. The primary source is believed to be the Big Sky Linen location, though three additional, smaller sources have been identified at the Central Avenue Laundry, the former Rex Cleaners, and the intersection of Minnesota Avenue and 23rd Streets. In addition to the contaminated groundwater, the site includes contaminated soils at the source areas and indoor air concerns.

The Concern

Because solvents can evaporate from groundwater and move through the soil, they can enter your home through cracks in the foundation, gaps around pipes, or other openings. This is called vapor intrusion. The concentration of these compounds will lessen with distance from the groundwater to the foundation.

The health effects from chemicals such as PCE are primarily related to exposure and dose. A person exposed to high doses of these chemicals for a short amount of time might experience dizziness, headaches, nausea, poor coordination, and difficulty concentrating.

A person exposed to low doses of these chemicals over a longer period of time might experience adverse health effects including neurological symptoms, immune effects, liver or kidney effects, or certain cancers.

In Billings, the indoor air levels measured in homes over the plume so far should not result in any immediate, short-term effects such as nausea or headaches, dizziness, etc. A person should not be able to smell PCE at present levels. However, there could be a health concern for people living at some homes if they are exposed to present levels over time. In addition, a person might be exposed to these contaminants if they drink water from a contaminated irrigation well or use contaminated irrigation water for recreational purposes such as filling a pool, or kids playing in sprinklers.

Investigation and Cleanup Work

In 1993, the Montana Department of Environmental Quality (MDEQ) completed a preliminary assessment of the site. Although subsurface contamination was identified at the time, MDEQ and EPA concluded with a “no further action” determination since the affected aquifer was not then being used as a drinking water source.

From 1999 until 2001, MDEQ completed a site investigation and determined that indoor air contaminant concentrations, within structures overlying the plume, may exceed levels that have the potential to cause chronic health risk for building occupants. However, additional information was needed to evaluate risk with more certainty.

In 2007, EPA conducted a removal action that included removing and disposing of contaminated soil at 715 Central Avenue; injecting chemicals to help reduce groundwater contamination; and installing a barrier wall around the most contaminated groundwater. EPA also installed vapor mitigation systems at seven structures overlying the groundwater plume near Big Sky Linen.

Since that time, EPA and MDEQ have been documenting plume characteristics and evaluating health risks due to vapor intrusion into structures overlying the plume.

Vapor mitigation systems limits vapor accumulation under structures, resulting in lower concentrations of solvents in indoor air. These systems collect vapor from underneath the structure and discharge the vapors into the atmosphere above the structure, much like a radon mitigation system.

In 2019, MDEQ issued a remedial investigation report that characterizes the current nature and extent of groundwater contamination, whether other sources are contributing to contamination, and if vapor intrusion is continuing to occur. Results found multiple sources of contaminated soil, and that subsurface soils, and possibly surface soils, at these source locations were continuing to contaminate groundwater. Further, while groundwater contamination has decreased since EPA's removal work, vapor intrusion is still occurring, and the shallow groundwater plume remains contaminated above Montana's groundwater standards.

The Current Situation

Information to-date shows that people continue to be potentially exposed to contaminated air through vapor intrusion if their homes are above the contaminated groundwater plume area.

Next Steps

Because there are ongoing sources of groundwater contamination, the agencies evaluated options for cleaning up the remaining contamination and sampling for and mitigating vapor intrusion. Additional investigation and cleanup will require resources. EPA, in coordination with MDEQ, has determined that proposing the Billings PCE site to the EPA National Priorities List of Superfund Sites is the best course of action going forward.

Frequently Asked Questions

What is the Superfund Program National Priorities List?

EPA's National Priorities List (NPL) is a list of some of the nation's most contaminated or most complex sites, commonly referred to as Superfund Sites. Sites on the NPL are eligible for federal funds to implement necessary cleanup activities through a comprehensive process that includes extensive public involvement opportunities.

The primary mechanism for placing a site on the NPL is through the Hazard Ranking System screening tool. Sites with a Hazard Ranking System score of greater than 28.5 are eligible to be added to the National Priorities List. Prior to proposing to add a new site to the NPL, it is EPA's policy to obtain a support letter from the state's governor. After a site is proposed to be added to the NPL, the public has an opportunity to comment on the proposal. EPA considers and responds to public comment received before issuing a final decision.

Why is EPA considering proposing the Billings PCE site to the NPL?

Based on the size of the Billings PCE site, state resources to mitigate potential risks and clean up the ongoing sources of groundwater contamination may be limited. EPA and MDEQ favor proposing the site to the NPL, qualifying the site for federal resources.

Will an NPL Superfund designation affect property values in the area?

EPA does not track property values. EPA's mission is to protect human health and the environment. However, based on past cleanups across the nation, EPA believes that a Superfund cleanup has an overall beneficial impact on a community. Studies indicate that it is the discovery of environmental contamination that can negatively impact property val-

ues. Because adding a site on the NPL triggers a federal commitment to do cleanup work, this step reduces uncertainty and may act as a signal to real estate markets that property improvements are imminent.

Will an NPL Superfund designation mean that property owners, small business owners, or municipalities would be liable to pay for the cleanup? Typically, EPA does not hold residential, small business, or municipal property owners liable for contamination they did not cause.

For more in-depth information about this, please visit EPA' website at: https://www.epa.gov/enforcement/landowner liability-protections.

On September 3, 2020, EPA proposed adding the Billings PCE site to the National Priorities List (NPL), making it eligible for additional study and cleanup resources under EPA's Superfund program. The proposed listing will be subject to a 60-day public review and comment period.

For more information about the site and on how to submit public comment, please visit the EPA Billings PCE website at:

https://www.epa.gov/superfund/billings-pce

Contacts

Roger Hoogerheide
US Environmental Protection Agency
Remedial Project Manager
10 West 15th Street, Suite 3200
Helena, MT 59626
406-457-5031 / hoogerheide.roger@epa.gov

Jennifer Chergo
EPA Office of Communication &
Public Involvement
1595 Wynkoop St., Denver, CO 80202
303-312-6601 / chergo.jennifer@epa.gov

Ryan Kloberdanz
EPA Office of Communication &
Public Involvement
1595 Wynkoop St., Denver, CO 80202
303-312- / Kloberdanz.ryan@epa.gov

Jason Rappe
Montana Department of Environmental Quality
Federal Superfund Project Officer
1225 Cedar Street, Helena, MT 59601
(406) 444-6802
jasonrappe@mt.gov

Moira Davin
Montana Department of Environmental Quality
Public Information Specialist
1520 E. 6th Ave. Helena, MT 59620
406-444-6360 / moira.davin@mt.gov